

Amendments to the Claims:

1. (presently amended) A system for creating an output video production from an input video signal, said system including:

computerized digital signal processing means for automatically performing one or more digital signal processing algorithms implemented in computer software or hardware on visual data comprised in ~~performing automatic signal analysis of~~ said input video signal to derive to ~~obtain~~ at least one descriptor value for each of a plurality of segments of the input video signal; means for using a selection rule and said descriptor values to select, from among the plurality of video segments, at least two video segments;

means for using a sequencing rule and said descriptor values of said at least two selected video segments to derive a sequencing order in which to present said at least two selected segments, said at least two selected segments being permuted in the sequencing order relative to the sequence of the at least two segments in the input video signal; and

means for assembling an output video production by including the selected video segments in the sequencing order.

2. (previously presented) The system as in claim 1, further including means for displaying at least one grid, each of said at least one grid having reference representations of the plurality of video segments for a first axis and at least one descriptor corresponding to the plurality of video segments for a second axis, wherein each cell in said at least one grid displays a representation of

at least one descriptor value ascribed to one of said at least one descriptors corresponding to one of the plurality of video segments.

3. (original) The system as in claim 2, wherein said at least one grid includes a plurality of rows, said plurality of rows including:

a row visually representing the plurality of video segments;
a row visually representing audio content of the plurality of video segments; and
a row providing time-series graphical representations of a plurality of descriptor values corresponding to one of the plurality of video segments,
wherein the temporal extent of each of the plurality of video segments is indicated in one of said plurality of rows.

4. (previously presented) The system as in claim 3, wherein said at least one grid further includes first and second grid, wherein when said video signal is input into said system, said first grid represents said input video signal in substantially an original state and second grid represents said output video production, and a change to said first grid causes a corresponding change to said second grid.

5. (previously presented) The system as in claim 1, further including means for creating transitions between selected video segments.

6. (previously presented) The system as in claim 5, wherein said means for creating transitions includes means for creating video dissolves or audio cross fades between selected video segments.

7. (presently amended) The system as in claim 1, ~~wherein said means for performing automatic signal analysis of said input video signal to obtain at least one descriptor value~~ includes further comprising means for importing a descriptor from the input video signal and at least one value for said descriptor which is ascribed to each segment of the input video signal, wherein said at least one value is created prior to importation into said system.

8. (Cancelled.)

9. (presently amended) The system as in claim 1, wherein said computerized digital signal processing ~~means for performing automatic signal analysis of said input video signal to obtain at least one descriptor value~~ includes means for creating said at least one descriptor value for each video segment by assigning an ordinal number to each of the segments of the input video signal in accordance with the position of the respective video segments in the plurality of segments of the input video signal .

10. (presently amended) The system as in claim 1, wherein said computerized digital signal processing ~~means for performing automatic signal analysis of said input video signal to obtain at~~

~~least one descriptor value~~ includes means for ascribing said at least one descriptor value to each segment of the input video signal by using a formula or algorithm having a reference to at least a second descriptor value.

11 - 14. (Canceled.)

15. (previously presented) The system as in claim 1, further including means for segmenting an input video signal into the plurality of video segments by enabling definition or adjustment of start and end times of a video segment by direct user manipulation.

16. (previously presented) The system of claim 1, further including means for deriving a single value from a plurality of temporally successive values of a descriptor corresponding to one of said plurality of video segments.

17 - 18. (Canceled)

19. (original) The system as in claim 1, further including means for providing playback of said output video production.

20. (previously presented) The system as in claim 1, wherein said means for selecting at least two video segments includes a selection rule which selects said at least two video segments

according to whether said at least one descriptor value for each segment lies substantially within a range of target values.

21. (Canceled)

22. (previously presented) The system as in claim 1, wherein said means for deriving a sequencing order comprises means for ordering said at least two selected video segments according to the difference between said at least one descriptor value for each respective selected video segment and a target value.

23. (Canceled)

24. (presently amended) A computerized method for creating an output video production from an input video signal , the method including the steps of:

- (a) automatically performing one or more digital signal processing algorithms implemented in computer software or hardware on visual data comprised in said ~~automatic signal analysis of said~~ input video signal to ~~derive~~ obtain at least one descriptor value for each of a plurality of video segments of the input video signal ; and
- (b) using a selection rule and said descriptor values to select, from among the plurality of video segments, at least two video segments;
- c) using a sequencing rule and said descriptor values of said at least two selected

video segments to derive a sequencing order in which to present said at least two selected segments, said at least two selected segments being permuted in the sequencing order relative to the order of the at least two selected segments in the input video signal, and (d) assembling the output video production including the selected video segments in the sequencing order.

25. (previously presented) The method as in claim 24, further including the step of displaying at least one grid, each of said at least one grid having reference representations of the plurality of video segments for a first axis and at least one descriptor corresponding to the plurality of video segments for a second axis, wherein each cell in said at least one grid displays a representation of at least one descriptor value ascribed to one of said at least one descriptors corresponding to one of the plurality of video segments.

26. (previously presented) The method as in claim 25, wherein said step of displaying said at least one grid includes the step of displaying a plurality of rows, said plurality of rows including:

- a row visually representing the plurality of video segments;
- a row visually representing audio content of the plurality of video segments; and
- a row providing time-series graphical representations of a plurality of descriptor values corresponding to one of the plurality of video segments,

wherein the temporal extent of each of the plurality of video segments is indicated in one of said plurality of rows.

27. (previously presented) The method as in claim 26, wherein said step of displaying said at least one grid includes the step of displaying first and second grids, wherein when the input video signal is provided, said first grid represents the input video signal in substantially an original state and said second grid represents said output video production, and a change to said first grid causes a corresponding change to said second grid.

28. (previously presented) The method as in claim 24, further including the step of creating transitions between said selected video segments.

29. (previously presented) The method as in claim 28, wherein said step of creating transitions includes the step of creating video dissolves or audio cross fades between said selected video segments.

30. (presently amended) The method as in claim 24, ~~wherein said step of performing automatic signal analysis of said input video signal to obtain said at least one descriptor value~~ includes the further including a step of importing from the input video signal a descriptor and at least one value for said descriptor which is ascribed to each segment of the input video signal wherein said at least one value is created prior to importation .

31. (Canceled)

32. (presently amended) The method as in claim 24, wherein said step of performing one or more digital signal processing algorithms ~~automatic signal analysis of said input video signal to obtain said at least one descriptor value~~ is performed by assigning an ordinal number to each of the segments of the input video signal in accordance with the position of the respective video segments in the plurality of segments of the input video signal .

33. (presently amended) The method as in claim 24, wherein said step of of performing one or more digital signal processing algorithms ~~automatic signal analysis of said input video signal to obtain said at least one descriptor value~~ is performed by ascribing said at least one descriptor value to each segment of the input video signal by using a formula or algorithm having a reference to at least a second descriptor value.

34 - 37. (Canceled)

38. (presently amended) The method as in claim 24, including the further step performed before step (a) of ~~of~~ segmenting the input video signal into video segments by enabling definition or adjustment of start and end times of a video segment by direct user manipulation.

39. (previously presented) The method as in claim 24, including the further step of deriving a single value from a plurality of temporally successive values of a descriptor corresponding to one of said at least two video segments.

40 - 41. (Canceled)

42. (original) The method as in claim 24, further including the step of playing back said output video production.

43. (previously presented) The method as in claim 24, wherein said selection rule in said step (b) of selecting at least two video segments includes selecting said at least two video segments according to whether said at least one descriptor value for each segment lies substantially within a range of target values.

44. (Canceled)

45. (previously presented) The method as in claim 24, wherein said sequencing rule in said step (c) of deriving a sequencing order includes the step of ordering said at least two selected video segments according to the difference between said at least one descriptor value for each respective selected video segment and a target value.

46. (Canceled)

47. (presently amended) A computer program product for creating an output video production from an input video signal, said product including:

a computer usable medium having computer readable program code means embodied in said medium for processing said input video signal, said computer program product having:

computer readable program code means for performing one or more digital signal processing algorithms on visual data comprised in automatic signal analysis of said input video signal to obtain at least one descriptor value for each of a plurality of segments of the input video signal;

computer readable program code means for using a selection rule and said descriptor values to select, from among the plurality of video segments, at least two video segments;

computer readable program code means for using a sequencing rule and said descriptor values of said at least two selected video segments to derive a sequencing order in which to present said at least two selected segments, said at least two selected segments being permuted in said sequencing order relative to the order of said at least two selected segments in the input video signal, and

computer readable program code means for assembling an output video production by including the selected video segments in the sequencing order.

48. (previously presented) The product as in claim 47, further including computer readable program code means for displaying at least one grid, each of said at least one grid having reference representations of the plurality of video segments for a first axis and said at least one descriptor corresponding to the plurality of video segments for a second axis, wherein each cell in said at least one grid displays a representation of at least one descriptor value ascribed to one

of said at least one descriptors corresponding to one of the plurality of two video segments.

49. (previously presented) The product as in claim 47, wherein said computer readable program code means for display said at least one grid, includes computer readable program code means for displaying a plurality of rows, said plurality of rows including:

a row visually representing the plurality of two video segments;

a row visually representing audio content of the plurality of video segments; and

a row providing time-series graphical representations of a plurality of descriptor values corresponding to one of the plurality of video segments,
wherein the temporal extent of each of the plurality of video segments is indicated in one of said plurality of rows.

50. (previously presented) The product as in claim 49, wherein said computer readable program code means for displaying said at least one grid further includes computer readable program code means for displaying first and second grids, wherein when the input video signal is provided, said first grid represents said input video signal in substantially an original state and second grid represents said output video production, and a change to said first grid causes a corresponding change to said second grid.

51. (previously presented) The product as in claim 47, further including computer readable program code means for creating transitions between selected video segments.

52. (previously presented) The product as in claim 51, wherein said computer readable program code means for creating transitions includes computer readable program code means for creating video dissolves or audio cross fades between selected video segments.

53. (presently amended) The product as in claim 47, ~~wherein said computer readable program code means for performing automatic signal analysis of said input video signal to obtain said at least one descriptor value~~ further includinges computer readable program code means for importing a descriptor from the input video signal and at least one value for said descriptor which is ascribed to each segment of the input video signal, wherein said at least one value is created prior to importation.

54. (Canceled)

55. (previously presented) The product as in claim 47, wherein said computer readable program code means for performing one or more digital signal processing algorithms ~~automatic signal analysis of said input video signal to obtain said at least one descriptor value~~ includes computer readable program code means for creating said at least one descriptor value for each video segment by assigning an ordinal number in accordance with the position of the respective video segments in the plurality of segments of the input video signal .

56. (presently amended) The product as in claim 47, wherein said computer readable program code means for performing one or more digital signal processing algorithms ~~automatic signal analysis of said input video signal to obtain said at least one descriptor value~~ includes computer readable program code means for ascribing said at least one descriptor value to each segment of the input video signal by using a formula or algorithm having a reference to at least a second descriptor value.

57 - 59. (Cancelled)

60. (original) The product as in claim 47, wherein said computer readable program code means for segmenting includes computer readable program code means for identifying and representing a different set of video segments for each of said at least one descriptor.

61. (previously presented) The product as in claim 57, further including computer readable program code means for segmenting the input video signal into the plurality of video segments by enabling definition or adjustment of start and end times of a video segment by direct user manipulation.

62. (previously presented) The product as in claim 47, further including computer readable program code means for deriving a single value from a plurality of temporally successive values of a descriptor corresponding to one of said plurality of video segments.

63 - 64. (Canceled)

65. (original) The product as in claim 47, further including computer readable program code means for providing playback of said output video production.

66. (previously presented) The product as in claim 47, wherein said computer readable program code means for selecting said at least two video segments selection rules which select said at least two video segments according to whether said at least one descriptor value lie substantially within a range of target value.

67. (Canceled)

68. (previously presented) The product as in claim 47, wherein said computer readable program code means for deriving a sequencing order includes computer readable program code means for ordering said at least two selected video segments according to the difference between said at least one descriptor value for each respective selected video segment and a target value.

69. (Canceled)

70 - 99. (Cancelled)

100. (previously presented) The system as in claim 1, wherein said means for selecting at least two video segments further includes means for choosing the selection rule from a predefined set of selection rules.

101. (previously presented) The system as in claim 1, wherein said means for deriving a sequencing order further includes means for choosing the sequencing rule from a predetermined set of sequencing rules.

102. (presently amended) The system as in claim 1, further including means for defining the segments of the input video signal, said means including :

means for obtaining at least two time series descriptors in the form of time series data, each time series descriptor representing the value of a characteristic of the input video signal at each of a series of successive time periods; and

means for using at least one of the time-series descriptors to derive a set of segment boundary times, the segment boundary times defining said segments of the input video signal;

wherein said means for obtaining descriptor values automatically obtains at least one descriptor value for each of said segments of the input video signal by using at least a second of the time series descriptors.

103. (previously presented) The system as in claim 1, wherein said means for performing automatic signal analysis of said input video signal to obtain at least one descriptor value is

operative to obtain a first said descriptor value for each of said segments;

said system further including:

means for ascribing at least one second descriptor value to at least a first of said segments;

means for grouping said first segment with at least one other of the segments according to the values of said first descriptor value, and

means for selectively copying said second descriptor value to said one or more other segments.

104. (previously presented) The system as in claim 1, further comprising:

display means for allowing a user to view said output production;

data input means for receiving instructions from the user to modify at least one of:

- (i) the descriptor values;
- (ii) the selection rule;
- (iii) the sequencing rule;

said means for obtaining descriptors, means for selecting at least two video segments, means for deriving a sequencing order and means for assembling an output video production being arranged to generate a modified output production based on the the modified descriptor values, selection rule and/or sequencing rule.

105. (presently amended) A system for creating an output video production from an input video signal, the system comprising:

means for obtaining at least two time series descriptors in the form of time series data, each of said time series descriptors representing the value of a characteristic of the input video signal at each of a series of successive time periods;

means for using at least one of the time-series descriptors to derive a set of segment boundary times, the segment boundary times defining a plurality of segments of the input video signal;

means for applying a descriptor reduction rule to at least a second one of the time series descriptors to obtain automatically at least one segment descriptor for each of said segments of the input video signal, the or each segment descriptor having a single value for each respective segment of the input video signal;

means for using a selection rule and said descriptor values to select, from among the plurality of video segments, at least two segments; and

means for assembling the output video production including the selected video segments.

106. (previously presented) A method as in claim 24 including a further step of choosing the selection rule from a predefined set of selection rules.

107. (previously presented) A method as in claim 24 including a further step of choosing the sequencing rule from a predetermined set of sequencing rules.

108. (presently amended) The method as in claim 24, including the further steps, performed before step (a), of defining the segments of the input video signal by:

obtaining at least two time series descriptors in the form of time series data, each time series descriptor representing the value of a characteristic of the input video signal at each of a series of successive time periods;

using at least one of the time-series descriptors to derive a set of segment boundary times, the segment boundary times defining said segments of the input video signal; and

said step (a), of obtaining at least one descriptor value for each said segments of the input video signal, being performed automatically using at least a second of the time series descriptors.

109. (previously presented) A method according to claim 24 in which said step (a) of performing automatic signal analysis of said input video signal to obtain at least one descriptor value for each of said segments of the input video signal includes obtaining a first said descriptor value for each of said segments; said method further including the steps of:

ascribing at least one second descriptor value to at least a first of said segments;

grouping said first segment with at least one other of the segments according to the values of said first descriptor value,

selectively copying said second descriptor value to said one or more other segments.

110. (previously presented) A method according to claim 24 including, at least once, performing the further steps of:

- (e) allowing a user to view said output production;
- (f) receiving instructions from the user to modify at least one of:
 - (i) the descriptor values;
 - (ii) the selection rule;
 - (iii) the sequencing rule; and
- (g) repeating steps (a) to (d) based on the modified descriptor values, selection rule and/or sequencing rule to obtain a modified output production.

111. (presently amended) A computerized method for creating an output video production from an input video signal, the method including the steps of:

(a) obtaining at least two time series descriptors in the form of time series data, each of said time series descriptors representing the value of a characteristic of the input video signal at each of a series of successive time periods;

(b) using at least one of the time-series descriptors to derive a set of segment boundary times, the segment boundary times defining a plurality of segments of the input video signal;

(c) applying a descriptor reduction rule to at least a second one of the time series descriptors to obtain automatically at least one segment descriptor for each of said segments of the input video signal, the or each segment descriptor having a single value for each respective segment of the input video signal; and

(d) using a selection rule and said descriptor values to select, from among the plurality of video segments, at least two segments;

(e) assembling the output video production including the selected video segments.

112. (previously presented) The product as in claim 47, wherein said computer readable program code means for selecting at least two video segments further includes computer readable program code means for choosing the selection rule from a predefined set of selection rules.

113. (previously presented) The product as in claim 47, wherein said computer readable program code means for deriving a sequencing order further includes computer readable program code means for choosing the sequencing rule from a predetermined set of sequencing rules.

114. (presently amended) The product as in claim 47, further comprising computer readable program code means for segmenting the input video signal into the plurality of video segments, said means including

computer readable program code means for obtaining at least two time series descriptors in the form of time series data, each time series descriptor representing the value of a characteristic of the input video signal at each of a series of successive time periods; and

computer readable program code means for means for using at least one of the time-series descriptors to derive a set of segment boundary times, the segment boundary times defining said segments of the input video signal;

wherein said computer readable program code means for means for obtaining said

descriptor values automatically obtains at least one descriptor value for each of said segments of the input video signal by using at least a second of the time series descriptors.

115. (previously presented) The product as in claim 47, wherein said computer readable program code means for performing automatic signal analysis of said input video signal to obtain at least one descriptor value is operative to obtain a first said descriptor value for each of said segments; said product further including:

computer readable program code means for ascribing at least one second descriptor value to at least a first of said segments;

computer readable program code means for grouping said first segment with at least one other of the segments according to the values of said first descriptor value, and

computer readable program code means for selectively copying said second descriptor value to said one or more other segments.

116. (previously presented) The product according to claim 47, further comprising computer readable program code means for performing at least once the further steps of:

allowing a user to view said output production;

receiving instructions from the user to modify at least one of:

- (i) the descriptor values;
- (ii) the selection rule;
- (iii) the sequencing rule; and

using said computer readable program code means for obtaining descriptors, selecting at least two video segments, deriving a sequencing order and assembling an output video production to obtain a modified output production based on the the modified descriptor values, selection rule and/or sequencing rule.

117. (presently amended) A computer program product for creating an output video production from an input video signal, said product including:

a computer usable medium having computer readable program code means embodied in said medium for processing said input video signal , said computer program product having:

computer readable program code means for obtaining at least two time series descriptors in the form of time series data, each of said time series descriptors representing the value of a characteristic of the input video signal at each of a series of successive time periods;

computer readable program code means for using at least one of the time-series descriptors to derive a set of segment boundary times, the segment boundary times defining a plurality of segments of the input video signal;

computer readable program code means for applying a descriptor reduction rule to at least a second one of the time series descriptors to obtain automatically at least one segment descriptor for each of said segments of the input video signal, the or each segment descriptor having a single value for each respective segment of the input video signal;

computer readable program code means for using a selection rule and said descriptor values to select, from among the plurality of video segments, at least two segments; and

computer readable program code means for assembling the output video production
including the selected video segments.